Center for Scientific Review
Center for Scientific Review Advisory Council Meeting
National Institutes of Health
U.S. Department of Health and Human Services

May 6, 2013

The Center for Scientific Review Advisory Council (CSRAC) convened at 8:30 a.m., Monday, May 6, 2013, at the Health and Human Services Building, 5635 Fishers Lane, Rockville, MD. The entire meeting was held in open session. Dr. Richard Nakamura presided as chair.

Members Present

Roberta Diaz Brinton, Ph.D.
John Cacioppo, Ph.D.
Susan Essock, Ph.D.
Pamela Hammond, Ph.D.
David Korn, M.D.
Marie Krousel-Wood, M.D., M.S.P.H.
Andrew W. Murray, Ph.D.
Richard K. Nakamura, Ph.D.
Keith R. Yamamoto, Ph.D.

Donald Schneider, Ph.D., was the executive secretary for the meeting.

I. Welcome, Meeting Overview, and Approval of Minutes

Dr. Richard Nakamura, CSR Director, welcomed attendees to the fifth meeting of the CSRAC and asked the two new members present, Roberta Diaz Brinton, Ph.D., and Susan Essock, Ph.D., to introduce themselves.

The minutes from the December 3, 2012, CSRAC meeting were approved.

II. NIH Update

Lawrence Tabak, D.D.S., Ph.D., NIH Principal Deputy Director, presented an NIH update, including implementation of recommendations from three Advisory Committees to the Director (ACD) work groups (WGs) and an exploration of new approaches to optimize peer review.

ACD Working Group on Data and Bioinformatics

The working group concluded NIH is at a pivotal point to capitalize on technology advances. Doing so requires cultural change and a long-term commitment to solve such problems as locating and accessing data, extending policies and practices to share data, organizing and developing methods to analyze data, and training biomedical researchers to use data.

NIH is tackling the "big data problem" through a new leadership position (Eric Green, Ph.D., is serving as Acting Associate Director for Data Science), new internal governing and oversight bodies, and a trans-NIH initiative called Big Data to Knowledge (BD2K), scheduled to start in FY 2014 to address the challenges of using these data for biomedicine.

ACD Working Group on the Biomedical Workforce

Dr. Tabak noted Sally Rockey, Ph.D., WG co-chair and NIH Deputy Director for Extramural Research, would provide an update on this WG later in the meeting.

ACD Working Group on Diversity of the NIH-Funded Workforce

The recommendations of this WG focus on the pipeline of future scientists, mentoring, infrastructure, and peer review to enhance workforce diversity. Dr. Tabak said that diversifying the NIH-funded workforce and ensuring the fairness of the peer review system are collective responsibilities across NIH. Four interrelated approaches will be carried out:

- ***Building Infrastructure Leading to Diversity (BUILD):*** NIH has determined it could best intervene in the pipeline at the undergraduate level, when students decide to continue in biomedical research. BUILD will provide student support, such as rigorous mentoring experiences, scholarships, and the possibility of loan repayment during graduate school, as well as faculty support, such as salary offsets, resources for highly effective mentors, and an "innovation space" to enable successful organizations to develop approaches. He explained the institutional requirements for BUILD eligibility and stressed diversity is defined in the broadest possible sense.
- ***National Research Mentoring Network (NRMN):*** To augment local mentoring, a nationwide consortium will connect students, postdoctoral fellows, and faculty to experienced mentors. NRMN will also develop standards for good mentoring, support training, and conduct other activities to provide meaningful mentoring experiences.
- ***Ensuring fairness in Peer Review:*** Dr. Nakamura will cover this topic later in the meeting.
- ***Increased engagement by NIH leadership:*** An NIH Steering Committee Working Group on Diversity was created. Roderic Pettigrew, Ph.D., is acting in the new position of Chief Officer for Scientific Workforce Diversity. Dr. Tabak explained the thinking behind creating this position; selection of a permanent leader is under way.

Exploring New Approaches to Peer Review

Some members of the biomedical research community have expressed concern that the composition of Integrated Review Groups (IRGs), along with dependence on normalized percentiles across all the IRGs, can, given finite resources, lead to funding less meritorious science. One aspect of the debate is whether study sections should be populated by specialists or generalists. An internal group from CSR, the Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI), and the Office of Extramural Research (OER) is exploring ways to identify emergent, highly active, and dormant areas of science, and to recommend approaches to couple the state of scientific fields to study section organization. They are considering a range of quantitative and qualitative parameters to inform the discussion.

Discussion Highlights

- ***Implementing diversity recommendations:*** In response to a question from Dr. David Korn, Dr. Tabak said NIH programs are designed to complement those at other institutions. He said NIH interprets diversity broadly to include race, ethnicity, socioeconomic status, people with disabilities, and unusual life experiences, rather than target any specific group.

- ***Lessons Learned:*** Dr. Brinton asked about lessons learned from past programs and metrics for assessment moving forward. Dr. Tabak said the BUILD consortium will have a data and coordinating center to provide real-time analysis to determine which sites perform best. A past limitation, which they are working to overcome, is how to track people throughout their careers. Dr. Brinton said her institution has had success using social networking for continuity. From existing programs, Dr. Tabak said a lesson learned is that rigorous mentored research experience is key, but it must be meaningful.
- ***K-12:*** Dr. Brinton also noted students in K-12 are the "pipeline" to enter into scientific careers. Dr. Tabak agreed, but said other agencies focus on this age group, including the National Science Foundation, Smithsonian, and U.S. Department of Education. NIH works closely with these other agencies.
- ***Big Data:*** Dr. Keith Yamamoto praised the working group and its report, and asked about NIH's overall goals. Dr. Tabak said the vision is to get the community together to arrive at appropriate metadata standards for each field. NIH is ready to make selective investments in a distributed model, but will not serve as the data police. A series of workshops will enable NIH to act as a convening center. Dr. Andrew Murray asked whether NIH would consider a policy in which funding requires the investigator to agree to release data. Dr. Tabak said such a policy is under discussion. In response to a question from Dr. Korn, Dr. Tabak acknowledged the need to protect confidentiality and privacy of patient data while also providing access to scientists.
- ***Scientific Diversity Officer:*** Dr. Pamela Hammond asked about the timetable and priorities for this position. Dr. Tabak said he hopes the permanent leader is at NIH by the end of the fiscal year. He said an important priority is diversity of the intramural research workforce.
- ***Exploration of Emerging Fields of Science and Peer Review:*** Dr. Korn expressed concern that the recent low funding rates may distort the analysis. Dr. Tabak said the exploration of peer review will take into account that the system is and will remain under stress, and an enormous amount of outstanding science, in all fields, is not being supported.

III. CSR Update

Dr. Nakamura said the background for a discussion about CSR is the grant success rate, which hovers at 18 percent with a payline of 6 to 8 percent. In addition to being catastrophic for science, this rate means more than 90 percent of CSR's constituency does not receive funding.

Dr. Nakamura said the CSRAC recommendations from the December 2012 meeting are being circulated. Scientific societies have expressed interest. He said to expect some time to pass before the recommendations are at the point of possible adoption, but welcomed CSRAC's interest in generating ideas for NIH consideration and supporting research about peer review.

CSR Review Issues in Early 2013

- ***Scoring Compression:*** CSR has observed significant score compression in scoring since the implementation of Enhancing Peer Review (EPR). Illustrating with a table, he pointed out a reasonable spread of scores in 2009, but by January 2013, a score of 20 represented the 9th percentile. One reason may be the NIH scoring chart guidance. An application of moderate

scientific interest, because it has no weaknesses, could receive a score of 1. As a result, CSR proposed a revised chart and provides verbal guidance to study section chairs, along with the suggestion that a 5 represents a good, medium-impact application. Scores have spread somewhat since then, and CSR is working with the study sections with the most significantly compressed scores.

- ***Distribution of Preliminary and Discussed Application Scores:*** Dr. Nakamura shared charts that show a cumulative distribution across the individual scores of the preliminary impact scores given by reviewers. They peak between 3 and 4. When the top half of the applications are discussed at a meeting, an average of 4.5 percent receive a score of 10 to 19, and 11.9 percent receive a score of 20 to 29. Depending on an Institute's or Center's funding, this circumstance may compromise its ability to use the scores to make funding decisions.

- ***Diversity and Fairness of Review:*** When Dr. Nakamura became acting director in 2011, the Ginter at al. report about discrepancies in peer review scores had been recently released. He highlighted recommendations and actions from the ACD on the issue. NIH Director Francis Collins and Dr. Tabak set up a subcommittee on peer review, co-chaired by Dr. Nakamura, which has 18 months to develop studies to determine to what extent bias within peer review influences review outcomes. Other areas include a focus on non-discussed applications, language that could potentially lead to biased outcomes, and potential reviewer bias. Dr. Marie Krousel-Wood urged Dr. Nakamura to establish a control group when carrying out the studies. Dr. Nakamura agreed, noting there could be vigorous discussion about what constitutes a reasonable control.

- ***Increasing Diversity on Scientific Review Groups:*** Dr. Tabak has urged CSR make a consistent effort to ensure diversity in the membership of study sections. African American and Hispanic membership increased in the last year, and CSR is working to continue this trend. Dr. Korn pointed to published analyses in response to complaints of "bias" against research applications from clinician scientists that might have relevant implications (MR Martin, T Lindquist, TA Kotchen, American Journal of Medicine, 121, 637-641 (2008): Why are peer review outcomes less favorable for clinical science than for basic science grant applications?).

- ***Early Career Reviewer (ECR) Program:*** Dr. Nakamura reported 2,134 ECRs have been accepted and 693 have served on 223 study sections. Feedback is very positive. In addition, more than half of the ECRs submitted Research Program Grant (RPG) applications after serving on a study section, some for the first time. Funding success will be monitored.

- ***Employee Viewpoint Survey:*** CSR staff attitudes measured in most indices in the U.S. government's Employee Viewpoint Survey improved significantly between 2011 and 2012. The decreases related to pay and diversity. Dr. Nakamura said he is looking into these concerns.

- ***New Meeting Space:*** CSR has new space within its offices where CSRAC can meet in the future. Council members will be able to talk with scientific review officers (SROs) on site.

Dr. Nakamura closed by acknowledging President Obama's appreciation of the peer review system as expressed in an April 2013 speech at the National Academy of Sciences. Dr. Nakamura thanked reviewers and SROs for their work.

IV. Office of Planning, Analysis and Evaluation (OPAE): An Update for CSRAC

George Chacko, Ph.D., OPAE Director, said the office works with other NIH entities to help advance a robust peer review system that is transparent, cost-effective and efficient, and manageable in workload. The Office's core interests are analysis and evaluation of the quality of peer review and different review platforms. Core activities include infrastructure development, building reference data sets, developing standard protocols, and building a culture that fosters data provenance, accuracy and reproducibility, and transparency.

Evaluating Peer Review Outcomes

OPAE is looking at how the design of the study section system, referral of applications, reviewer recruitment, and management lead to the selection of applications with the greatest potential for impact.

OPAE is developing models that represent the system using application content to see how study sections are clustered across IRGs. Dr. Chacko said these models could initiate a dialogue about merging, cloning, terminating, or rearranging study sections and IRGs. OPAE is also engaged in a project to map science, based on publications in the Scopus database, and then mapping the IRGs and study sections against this map.

Other Issues for Analysis

- ***Gender Balance in Study Sections:*** Dr. Chacko shared data about gender inclusion in study sections. Chemistry IRGs tend to have the fewest women, and the social sciences tend to have more.
- ***Scoring Distribution:*** Dr. Chacko showed data that reinforced Dr. Nakamura's earlier comments about scoring compression.
- ***Requested Study Sections:*** Requests by applicants that their applications go to a specific study section have increased since 2007. Dr. Chacko posed the question about whether these requests can help identify confidence in study sections or identify fields of science.

IRG Evaluations

Dr. Chacko explained the process that will take place to evaluate the first three of all 24 IRGs in the next four years. The Biochemistry/Biophysics IRG will be the first to undergo this evaluation.

Priorities in 2013

Dr. Chacko acknowledged the staff in OPAE and the many collaborators within NIH. He said priorities for 2013 include design, referrals, data and protocols, expanding analytics, continuous evaluations, and publishing of their observations and conclusions.

Discussion Highlights

- ***Scoring Compression:*** Dr. Cacioppo suggested another interpretation of scoring compression is that study sections are doing valid scoring but there is differential dropout: Those without a chance are dropping out, while those who apply are developing more competitive proposals.

Dr. Nakamura said CSR is discussing this issue right now, and he will want to engage CSRAC on it. As discussed later in the meeting, some reviewers and others have suggested a ranking system.

- ***Evaluation of Scoring:*** In response to a question from Dr. Hammond, Dr. Chacko said different review platforms do not show any significant difference in scoring but stressed that OPAE's studies are far from complete on this subject.
- ***Using the Findings:*** Dr. Yamamoto asked how the systems analysis is used. Dr. Chacko said the intent is to describe the system to support better decision-making. Dr. Nakamura said the data can also flag issues for inspection.
- ***IRG Evaluations:*** Responding to a question from Dr. Yamamoto, Dr. Chacko said the evaluations will focus on quality of the work and the scientific footprint (within a publication based map of science) of each IRG to see whether organizational changes are needed to accommodate changes in science.

V. NIH Extramural Update

Sally Rockey, Ph.D., NIH Deputy Director for Extramural Research, explained how OER provides the corporate framework to support research across all NIH Institutes and Centers (ICs). Her staff works closely with CSR. She noted NIH has a regulation related to peer review, which means significant changes must go through the rule-making process.

Budget

As of the CSRAC meeting, NIH financial plans had not been developed because of uncertainty about final budget numbers. A guide notice will provide the general approach about how NIH will meet its fiscal obligations, then ICs will send out their fiscal operations plans. The plans must accommodate a 5 percent cut due to sequestration.

NIH received nearly $150 million to restore programs at institutions devastated by Superstorm Sandy, including a supplement to cover hazardous-material safety and training offered by the National Institute of Environmental Health Sciences (NIEHS).

Biomedical Research Workforce WG

Dr. Rockey reviewed the Workforce WG's findings and conclusions, as well as the proposed implementation strategy presented to the ACD in December 2012. The strategy includes the Broadening Experience in Science Training (BEST) program to encourage innovative training approaches to improve graduate and post-doctoral training; an increase in post-doctoral stipends; development of a system to track trainees; initiation of a discussion with the community to assess NIH support of faculty salaries; and other aspects.

NIH sent out a Request for Information to solicit public input, including experiences at the personal and institutional level. Responses are being collated and summarized.

Application Locus of Review and Numbers

Dr. Rockey said OER receives many questions about whether an application has a better chance of funding if submitted to an IC rather than CSR. Looking across all applications, the rate is 17 percent funded when CSR is the locus of review versus 25 percent across the ICs. However, the difference is explained because ICs issue some Requests for Applications (RFAs) that receive few applications. In an analysis of all R01s and RFAs, the percentages are almost identical.

Another question that has arisen is whether the increase in applications results from more applicants overall or more applications submitted per Principal Investigator (PI). They found the number of applicants drives the increase, not more applications per PI. The average number of applications submitted per PI is 1.4 applications/year. Direct costs requested per application have increased.

Discussion Highlights

- ***Supporting Graduate Student Development:*** Dr. Korn asked if NIH is considering requiring graduate students to be on training grants and not RPGs. Dr. Rockey said NIH would rather raise the experience for everyone, noting some post-docs are isolated as well. Individual Training and Development Plans (IDPs), whether on a training or research grant, would benefit everyone. She noted the BEST program will enhance the experience for all, not just those on training grants.
- ***Funding in Tight Times:*** Dr. Yamamoto said CSRAC had recommended Dr. Nakamura carry forward its recommendations to make greater use of the R56 (Bridge) and to allow some investigators to submit a "pre-buttal." Dr. Rockey said ICs make use of the R56, but the overall issue is success rates for funding have been cut in half over a 10-year period, in part because of the increasing cost of science.
- ***Following Up on Biomedical Workforce WG Recommendations:*** Dr. Murray said many PIs must run their research organizations, rather than actively do lab research. Dr. Korn noted PIs are responsible for many regulations and other managerial tasks, as well as grant-writing. Dr. Rockey agreed, adding research with humans and animals requires additional oversight. Dr. Brinton said another challenge for young researchers is universities often want to hire people who can bring their own support with them. Dr. Rockey said discussion about NIH support for capital costs and salaries will take place based on better data about salaries; previously, they could only look at level of effort.

VI. Addressing Key Issues: A Moderated Discussion with Council

Dr. Nakamura opened the session with several slides about topics under discussion internally. Even with funding constraints, NIH invests about $22 billion per year in scientific research, and optimizing that investment is a key role for peer review.

Absolute Scores versus Ranking

The Issue of Scoring Compression

The distribution of preliminary scores in the 1-to-9 system shows a skewed normalized distribution that compresses application scores at the left-hand tail (scores of 1 and 2). Dr. Nakamura posed the question about how to make review advice more sensitive and more accurately reflect ranking. Several members offered alternate explanations to the compression. Dr. Cacioppo noted the difficulty in comparing across different grants. Dr. Murray said if the assigned reviewers provide the same scores, the rest of a committee may tend to go along with that score. To deal with how to differentiate among similarly scored applications, Dr. Yamamoto described a system in which scoring takes place during a meeting, then applications are collectively ranked at the end of the meeting with the scoring as a guide. Dr. Brinton agreed with Dr. Yamamoto that a group of high-caliber scientists could make a quantitative and qualitative judgment working as a group.

Approaches to Test Ranking

Dr. Nakamura described two approaches to ranking: (1) have reviewers rank-order applications individually to develop a general rank, or (2) approximate rank-ordering and then have the committee look and possibly re-order the ranking after discussion. Recognizing other possibilities, he suggested CSR could test different approaches.

Dr. Cacioppo suggested several ways to test ranking procedures. Dr. Essock said she supported looking empirically at ranking but expressed concern about potential conflicts of interest in ranking at the end of a meeting and about how long the process would take. Dr. Krousel-Wood said in her experience on review panels, consensus on ranking usually develops fairly quickly. Dr. Korn warned there is a limit to the precision with which a person can rank-order among a set of outstanding applications and asked if other methods would have more validity. Dr. Nakamura responded that the question points to further exploration because the limit is not really known. An experiment could see if rank-ordering by different halves of the same committee would replicate the order. Dr. Yamamoto noted judgment about scientific merit is subjective, with review panels constituted to respect that judgment. Dr. Nakamura said CSR plans to convene a meeting with experts in decision-making and invited CSRAC involvement.

Dr. Cacioppo said the strength of certain personalities could produce concurrence at the end of a meeting, resulting in reliable but not necessarily valid results. Dr. Essock suggested holding onto and using component scores as a way to distinguish between applications at the top end. Dr. Nakamura said one approach to peer review is recognizing two or three leaders do emerge who guide the discussion. Dr. Hammond noted she has served on a review panel in which the leader came off as a bully to others, although strong leadership has worked well on other committees. Dr. Krousel-Wood said much calibration goes on during a meeting as people begin to understand the dynamics of the review process. Reviewing and rank-ordering at the end of the meeting might not result in major shifts, but the small shifts that do occur could have important implications and provide valuable information.

Dr. Essock said the assumption seems to be that discussion of the top group of applications is better than providing an extra decimal point of precision. Dr. Cacioppo clarified he is not against

ranking, but distinguished two parts: providing a ranking, and reconsidering at the end of a meeting to try to recalibrate on the same scale. He suggested pulling the two concepts apart.

Strategic Plan

ICs are required to have strategic plans and CSR has not recently developed one. Dr. Nakamura said he will provide CSRAC with a relatively short statement of priorities for discussion.

Percentiling

The issue of comparing results across review committees is important. Percentiling to equate the output of study sections has come under question. From the audience, Peter Guthrie, Ph.D., SRO of the Neurotransporters, Receptors, Channels, and Calcium Signaling Study Section, pointed out percentiling is essentially rank-ordering applications, although without a discussion of the applications at the end of a meeting, as discussed above. Dr. Nakamura noted percentiling also does not produce a sense of the relative variation and texture, e.g. between 20 and 21 versus 21 and 60.

Fairness of Review

Dr. Nakamura said it is important to continue to revisit the process of two-stage review. Locating and finding the best science is the "true north" of the review process. Dr. Korn said in his experience, CSR has a more rigorous process to identify topnotch science than ICs. Dr. Nakamura listed factors that weigh in the direction of CSR review, including cost-effectiveness; the value of investigator-initiated work; and the move towards mechanisms as the organizational basis of science, rather than within a given discipline. Dr. Yamamoto said he has seen a proliferation in institute-based mechanisms through RFAs and other program announcements, but the crown jewel of the NIH system for supportive science is investigator-initiated research.

Measuring Quality of Review

Dr. Nakamura questioned whether the current form of the summary statement is the best way to communicate review results to an applicant. He said his aim for CSR is user friendliness with respect for PIs, the scientific community, and the opinions of scientists.

Proposal: Composition and Operation of Study Sections

The discussion period was then open to topics brought up by Council members. Dr. Yamamoto introduced a proposal related to the composition and operation of study sections that he said he hoped would restore a sense of enjoyment and honor of service. In his proposal, about 20 generalists would make up a panel. If an application requires specialized judgment about its feasibility, an expert would be asked to provide a short statement by mail. The panel would then be armed with expert advice, but the experts would not attend meetings or become involved in all the other applications.

Responses and Questions

The rest of CSRAC and CSR staff in the audience reacted to the proposal. Dr. Murray said the critical part is having the expert opinion early enough to follow up with questions as needed, which is what occurs when the experts attend the meeting. In response to a question from Dr. Hammond, Dr. Yamamoto said Early Career Reviewers would continue to be involved under his proposal.

Dr. Brinton said she supported the proposal as a way to restore enthusiasm and commitment in study section service. Social interaction within a committee is important, as are diversity and leadership. Dr. Essock said a compelling aspect of the proposal is the impact on scoring when ad hocs attend and vote, but agreed with Dr. Murray that follow-up with the experts is often needed. She asked if ad hocs could attend but not vote on all applications. Dr. Cacioppo suggested a small-scale experiment could go hand-in-hand with revisiting IRG composition based on better data from fingerprinted applications. Smaller study sections could result, and the structure could be examined every 10 years or so as science changes.

Dr. Krousel-Wood noted ongoing challenges to willingness to review, including that researchers say they need the time to work on their own proposals and different generations have different perceptions of workload. She also noted some study sections lend themselves to Dr. Yamamoto's proposal more than others. Dr. Murray said funding levels also affect enthusiasm to participate in study sections.

Dr. Korn asked how the proposal could apply if study sections do not meet in person. Dr. Nakamura said consensus remains among IC directors that face-to-face interaction is needed, although the issue is always on the table. Moreover, alternatives like editorial board reviews could be similar in cost. Dr. Brinton stressed the idea of a common vision to NIH and the country that study section service should engender. Dr. Nakamura noted data are needed to show how meetings make a difference to the quality of the science or the quality of the review.

The first member of the audience to weigh in was Dana Plude, Ph.D., Chief of the Biobehavioral and Behavioral Processes IRG, who said SROs in his IRG who have run editorial board type reviews find they are complicated to run. Some study sections are diverse and finding a small group of experts who are qualified and willing can be challenging.

Rajiv Kumar, Ph.D., Chief of the Musculoskeletal, Oral, and Skin Sciences IRG, said he has run several editorial board panels. He called them challenging but do-able, and noted in some cases, such as with very large numbers of applications, there is no other option.

Richard Ingraham, Ph.D., SRO for the Skeletal Muscle and Exercise Physiology Study Section, said his study section sees a diverse group of applications. The goal is to get the communities to work together, and members build trust and enjoy their camaraderie. But he noted junior scientists with technical expertise want to be more involved in larger decisions than only providing expert opinions. Dr. Guthrie said his study section is also broad. Face-to-face interaction with ad hocs has tremendous value, as does the combination of newer and more experienced reviewers.

In response to the comments, Dr. Yamamoto said he would not rule out that face-to-face meetings could be displaced at some point, but he places great value in them. He suggested starting an experiment in an area where success might be most likely. Dr. Nakamura asked for a sense of the CSRAC on the proposal.

Dr. Yamamoto clarified the proposal: Conduct an experiment in which the regular membership of study sections would be a stable cohort of generalists in the field. The experiment would pick an existing study section and recruit members who would serve in that way. The SRO would survey the applications in a given round and solicit by email the comments from outside experts as needed that would arm the stable group with technical assessment.

Carole Jelsema, Ph.D., Chief of the Molecular, Cellular, and Developmental Neuroscience IRG, said ad hocs have been a proven way to obtain needed expertise. She said generalists sometimes ignore the specific expertise from an editorial board review. Dr. Nakamura asked if any SROs have a group to use for an experiment. Dr. Kumar suggested the DTCS A81 committee. Although not chartered, it meets on a recurring basis to review applications related to imaging.

Metrics of Success

Dr. Brinton asked about metrics of success. Dr. Yamamoto identified two: (1) a panel that would make good choices, (2) building a sense that it is an honor to serve. Dr. Brinton asked how scoring compression might be addressed. Dr. Korn asked, as a step toward Dr. Yamamoto's goal, about striving for generalists on existing committees with expertise provided in a more focused way, which might not require such wholesale change. Dr. Nakamura said SROs are requesting more funding to provide expertise to study sections, but would be interested in a trial with a contrasting approach to use generalists.

Dr. Murray said one way to measure success would be to measure the quality of reviewers who attend meetings and how often they attend. Another might be whether the best and the brightest younger scientists, when recruited, agree to serve.

Syed Quadri, Ph.D., Chief of the Oncology Translational and Clinical IRG, said four IRGs are involved in a two-stage pilot now, beginning with a technical expert review and then a group of clinicians who meet face to face.

Dr. Essock asked if this proposal is the issue on which to invest time when there are other important topics to study.

Sense of CSRAC on the Proposal

At CSRAC request, Dr. Yamamoto restated the proposal: to change the perspective on composition of study sections to move to a panel of generalists in the field of study whose judgment is widely respected. That stable group would be the study section. Any needed outside opinion necessitated by a lack of expertise would be done by very focused requests to experts in those areas. The aspiration is that this system might rekindle some of the community-mindedness that embodied study section membership in the past. The question remains whether this would improve the quality of peer review.

Dr. Korn said he shared the aspiration but asked about the practicality of the experiment. He said he saw it as moving toward a system in which outside expertise is managed as much as possible by short-answer questions rather than bringing experts into the room. Dr. Nakamura agreed a measure of success is needed. Dr. Krousel-Wood added the structure may not apply to all study sections. Dr. Nakamura said CSR has a number of potential experiments and prioritization is

necessary. He asked CSRAC if this proposal is worth leaving on the table for consideration as a future experiment. A show of hands supported doing so.

VII. **Closing**

For future meetings, Dr. Nakamura asked if CSRAC would like a presentation by a scientist about a research peer review topic, such as an expert who studies ranking or the economic value of peer review. Dr. Brinton expressed support for the idea. Dr. Murray suggested a speaker who has done serious research that challenges the idea that peer review is the best method. Dr. Yamamoto suggested a way to engage with NIH leadership about the distribution between IC-based mechanisms and investigator-initiated proposals.

The meeting adjourned at 3:10 p.m.

We do hereby certify that, to the best of our knowledge, the foregoing minutes of the May 6, 2013, meeting of CSRAC are accurate and complete. The minutes will be considered at the next meeting of the Advisory Council, and any corrections or comments will be made at that time.

D. Schneider

Donald Schneider, Ph.D.
Executive Secretary
Center for Scientific Review Advisory Council

Richard Nakamura

Richard Nakamura, Ph.D.
Chair
Center for Scientific Review Advisory Council